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ABSTRACT

Background on the creation, governance, program development, and planning of the new National Institute of Education (NIE) are provided in this speech. Summary descriptions of NIE's plans for basic research, research and development and utilization systems, and programmatic research and development. The latter category is NIE's major concentration at present and specific programs include investigations of the relationship between learning and work, school initiated experiments, curriculum development, management, post-secondary, early education, and minority concerns. (RH)

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# "IMPLICATIONS OF NATIONAL INSTITUTE OF EDUCATION POLICIES AND PROGRAMS FOR EDUCATIONAL TECHNOLOGY"

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## Introduction

Today, April 11, marks a significant milestone in the creation of the Federal Government's newest R&D agency--the National Institute of Education. It is the date of the first meeting of the National Council on Educational Research and Development. Until this moment, many veteran observers of NIE, including some members of Congress, have firmly believed that NIE has not legally existed. If this is true, I hope that the General Accounting Office doesn't ask for a refund on my pay checks for the last eight months!

My name is Bruce Craig. I work for two NIE Task Forces--half my time I work for Marc Tucker, Director of the Special Projects Task Force and the other half for Bill Cody, Director of the Applied Studies Task Force. I am assuming today that your interest in inviting Marc Tucker was to become more familiar with the emerging policies and programs being planned by NIE, since the Special Project Task Force is one of several organizations under the immediate Office of the Director which is intimately involved in developing program policy.

Permit me to begin with a little background on the creation of the Institute:

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The Creation of NIE

Federal involvement in educational research was extremely limited, at least in relation to the Office of Education, until passage of the Cooperative Research Act in 1954. This law authorized the Office of Education to spend funds in support of educational research activities conducted by State educational agencies, colleges and universities. The total support for grants in the Cooperative Research Program during the first year of funding (FY 1957), was $1 million.

As the years passed, other authorizations and other agencies increased Federal sponsorship of research and development in education. Funds appropriated under the Cooperative Research Act, however, remained the largest single source of Federal support. By FY 1972 this support had been expanded by Title IV of the Elementary and Secondary Education Act of 1965 to include dissemination and demonstration activities and increased in funding to $108 million.

Although the increase from $1 to $108 million in 16 years gave the appearance of phenominal growth, the overall size and rate of funding in recent years suffered greatly in comparison to other programs administered by the Office of Education. Researchers and interested laymen in education became convinced that significant improvement in the quality and quantity of research and development activity would only be achieved by creating a new organization outside of the Office of Education.

In his 1970 Annual Message to Congress on Education, President Nixon proposed the formation of a National Institute of Education. After nearly two years of debate in Congress legislation was passed which authorized the creation of NIE.

Title III of the Education Amendments of 1972 establishes the fundamental educational policy of the United States to be the provision to every person "an equal opportunity to receive an education of high quality, regardless of race, religion, sex, national origin or social class." To carry out this policy within the Department of Health, Education and Welfare, the Act creates a Division of Education headed by an Assistant Secretary. Beneath the Division is the Office of Education and the National Institute of Education. The Institute was given four functions:

- To help solve or alleviate the problems of and achieve the objectives of American education
- To advance the practice of education as an art, science and profession
- To strengthen the scientific and technological foundations of education, and
- To build an effective educational research and development system.

Governance by the Council

As I indicated in my opening comments the law establishes a National Council on Educational Research to assist the Director of NIE in carrying out the institutions four functions. In some respects the Council's functions are unique and unprecedented. It will, for example have a different relationship to NIE than that which exists between the National Science Foundation and the National Research Board. Since today is the first meeting of the Council, let me indulge in a few comments on how I believe it will function.

The Act states that NIE is to be both the Council and the Director. A condition which, many interpret not to have been met until the Council's first

meeting today. Its powers appear to be less absolute than its condition of being since the specific functions enumerated are at once both advisory and decision-making. It shall, according to the legislation, "establish general policies for, and review the conduct of, the Institute" and "advise the Assistant Secretary and Director on development of programs...." Unlike the National Science Board which has strong decision-making authority, the Research Council was not given specific authority or responsibility for the Institute's programmatic and administrative operations. These reside exclusively in the Director. The Council can only give recommendations on the development of programs.

To continue the analogy, NIE unlike NSF does not exist as an independent agency. The Council and Director cannot institute policies and programs, without being responsive to priorities of the Assistant Secretary for Education and the Department of HEW.

The Council members recently appointed by the President have backgrounds which are largely unrelated to educational research and development. It appears, therefore, that the Council represents a very broad, citizen-oriented perspective on educational research, unlike other councils which have advised Office of Education research administrators in the past. The significance of this broad representation is still unclear however. Some believe that it may have a more saluatory effect on the selection of federal priorities for the development of more practical innovations and practices.

NIE Program Development

While the NIE staff has been looking forward to this day when the Council is holding its first meeting, it has not been all together inactive in planning policies and programs that might best reflect its legislative

mission. Indeed NIE program planning has been an on-going activity long before the Institute was established.

OE created an NIE Planning Unit shortly after legislation was introduced in 1971. Among the Unit's principal functions was the sponsorship of conferences with the many diverse groups and individuals who might be interested, in or affected by the creation of a separate organization for educational R&D. The Unit commissioned or developed with its own staff a variety of program planning documents which arrayed alternative approaches to NIE's organization, managerial style, programs and policies for possible use by the NIE Director and staff after its establishment. As a member of the Planning Unit, directed by Dr. Harry Silberman who is now at UCLA, I had the good fortune to be a participant in this planning process.

I mention the Planning Unit's experience, only to introduce NIE's interest in the role and utilization of technology in NIE plans and policies.

One of the first conferences sponsored by the Planning Unit was on educational technology (July 29-30, 1971), An ad hoc group of university and industrial representatives was invited and chaired by Dr. John Truxal from the State University of Alabama-Huntsville and Stanford; Frederick Frick, MIT Lincoln Laboratory; William Huggins, John Hopkins; David Miller, Brooklyn Polytech; Bernard Oliver, Hewleett-Packard Co.; and Kevin Smith, EDC. The conference report which will be available shortly through ERIC, made recommendations in a number of broad program areas, including:

1. Possible contributions of technology to education
2. The initial concerns of NIE in technology development and utilization
3. The use of system studies as a basis for building models of the educational process

4. The possible contributions of an "educational dynamics research program, and

5. The need for development in audio-visual, microfiche, cable television, computer and film technologies

Recommendations contained in the conference report have been made available to, and used frequently by NIE program planners. I recommend it to those of you who have an interest in the Institute.

The programs and activities of the National Center for Educational Communications and National Center for Educational Technology were proposed at the time of NIE's creation to remain in the Office of Education. Only at the last minute did Congress decide that NIE should have a major responsibility of the dissemination of educational innovations.

Transfer of NCEC and NCET

In accordance with the switch in direction the National Center for Educational Communications was transferred in tact to NIE as the Task Force on Dissemination last July.

A decision to shift programs administered by the National Center for Educational Technology was made by the Office of Manpower and Budget this year. A few of NCET's activities - specifically formula grants for Public Broadcasting facilities and the Sesame Street and Electric Company Television Programs will remain in the Office of Education next year. All other demostration programs to NIE will be transferred as of June 30th this year.

The transfer of communication and dissemination programs to NIE has had an obvious impact in developing program budgets. Nearly $16 million in FY 1973 had to be transferred from the Office of Education to fund ERIC and other ongoing activities of NCES now administered by the Dissemination Task Force. A comparative transfer of funds from FY 1973 technology demonstrations to NIE in FY 1974 will be approximately $7 million. Thus more than $23 million

in communicational technology R&D activities were or will be added to the less than $100 million base established by other programs at the time NIE was established.

NIE has been engaged as Congress specified with reviewing all current dissemination programs and preparing recommendation on possible future directions for discussion with the National Council. In the interim NIE has funded only the continuation of expiring grants and contracts where we have concluded that the Government had a clear commitment to be met, or had incurred a substantial investment that would be lost if the funding were to laspe.

NCEC programs, however, did not receive special treatment. NIE has, or is conducting careful reviews of all programs transferred from the Office of Education, including Experimental Schools and Career Education. It also completed the transformation of the Laboratory and Center Institutional support program to individuals programmatic projects which have become part of other NIE programs.

FY 1974 Planning

What I will now say is highly tentative, in that it is a major topic of discussion for today's Research Council meeting. Much of it will be available in more detail when the FY 1974 Budget Proposal is published.

The NIE FY 1974 budget requests approximately $162 million. After substracting real and comparative budget transfers for continued OE and OEO research programs the actual increase requested is less than $17 million. Of this increase, only $5 million is anticipated for new R&D activities. The remaining will be used for annualizing new positions, and meeting increases in competing and non-competing program continuations. To some extent this may be deceiving. Nearly $30 million will be available for

competing program continuations, i.e., the program is "continuing," but the projects awarded funding are new each year. Included in this category are funds for the field initiated programs which full funds research proposals each year.

At present (and again I reiterate that they are subject to change), NIE proposes to spend FY 1974 funds in four areas:

1. Basic Studies - Activities which are designed to meet the legislative objective of "strengthening the scientific and technological foundations of education." Three major categories are proposed.

A. Field Initiated Studies

In FY 1973 approximately $10 million awards are being made in three areas. We hope to be able to increase these funds considerably in FY 74:

1) Research in Education - Grants to experienced investigators in any field except selected disciplines.

2) Selected Disciplines - Support for disciplines not usually involved in educational research. In FY 1973 these were anthropology, economics and political science/legal research.

3) Small Grants Research - Awards to qualified, but less experienced or established researchers, limited to $10,000 and no longer than 18 months in duration.

B. Exploratory Studies - Exploratory Studies were initiated as an outgrowth of the planning process begun by the NIE Planning Unit. Accordingly NIE has begun inquiries into a number of areas, including:

1) Educational Goals - The nature of goals as perceived by various social and economic groups and the priorities which different groups assign them.

2) Reading - The processes by which children learn and teachers teach reading.

3) Use of Resources - Current uses of and constraints on available resources for education research into the correlation between educational costs and benefits. Experiments in resource utilization including the use of

4) Educational Personnel - Looking for ways to involve practitioners in formulating research; issues; investigating status of teacher recruitment, training, accreditation and certification.

5) Cross-National Studies - International approaches to the schooling process and formal educational system.

C. Scholars Program - NIE plans to use its limited term Civil Service exempt authority to recruit scholars and scientists to perform their own research, participate collectively in NIE activities and service as sources of information and inspiration to NIE staff.

II. Research and Development and Utilization Systems:

One of the four goals of the Institute, as you may recall, was to "build an effective educational research and development system." The NIE is planning to invest a small, but significant portion of its FY 74 funds to work on three attendent problems:

1) How do attract highly capable people to work on educational problems.

2) How to develop support systems such as information feedback for the R&D community to produce quality R&D.

3). How to encourage more widespread use of R&D results so that beneficial changes occur in educational practice.

Three activities are currently being planned.

A. Strengthening the R&D System

Studies on the nature, problems and desirable system changes to be encouraged in designing NIE policies and programs. Both organizations and personnel will be studied.

B. Linking Research to Practice

A study has been initiated to investigate the complex set of dissemination/utilization functions which are essential elements of the objective to improve the practice of education. It will look at theories of social and educational change, examine past government and non-government programs which have been included to stimulate change, and look at national experiments to see how change occurs in practice. This data will be used to develop policies and possibly experimental programs for NIE which will attempt to create new roles for elements of the R&D system, publishers, school systems, State educational agencies and other organizations.

C. Dissemination of R&D Findings

This third category of activities embraces the Educational Resources Information Center (ERIC) and its current network of 18 clearinghouses. Most of you are no doubt familiar with the

ERIC Clearinghouse on Educational Media and Technology at Stanford. NIE will be reviewing the ERIC System for its criterial in documents, acquisition, cost-effectiveness, feedback and response mechanisms from consumers, and overall utilization. At the same time it plans to maintain the current system and its capability as comprehensive educational document retrieval system.

III. Programmatic R&D

The largest budget and program catagory of activities, embracing the first objective of the institute to "help solve or alleviate the problems of, and advance the objectives of, American education."

All the programs in the programmatic R&D catagory are therefore focused on specific educational problem areas:

A. Relationship Between Learning and Work - the designation of activities in this area as "career education" does not adequately embrace the complexity of problems which appear to be involved in the transition of youth from school to work mid-career employment changes of adults,

and access of women and minorities to desirable jobs. Consequently, NIE will be both continuing "career education" R&D activities inherited from OE and initiating its own policy analysis and research activities.

B. School Initiated Experiments - Funding for activities in this catagory will constitute NIE's largest investment in FY 1974. They are programs which were initiated in OE and OEO to develop and demonstrate ideas and practices which schools have largely identified themselves.

1. Experimental Schools - the idea of this program is to test the ideas that change in school practices is likely to occur only if all elements of the school system - curriculum, instruction, governance, structure and organization - are considered comprehensively.

   Five year experiments in three large school districts are nearing completion, two others were initiated last year. The program has been expanded to include inner-city drop-out and rurally-isolated populations.

2. D.C. Schools Project - Initiated by OE as a community based effort to revitalize 18 elementary and secondary schools in the Annacostia section of Washington. NIE is currently reviewing the programs to determine its R&D significance.

3. Governance - The third school-based activity to be carried out in FY 1974 is the educational voucher experiment to be transferred from OEO to NIE. The objective of this experiment is to test the feasibility of financial incentitives which create a competitive educational market place. Parents are permitted to choose educational programs for their children through redemption of "vouchers" which is roughly worth the per pupil expenditure of educational systems in the community. NIE is reviewing OEO plans to determine their completeness and compatibility with NIE's overall mission.

C. Curriculum Development

Curriculum Development will constitute the second largest program activity in NIE for FY 1974. Projects transferred from OE's Lab and Center Program and NCET's Special technology projects will consume the greatest portion of funds allocated for curriculum development. Subject areas include mathematics, language arts, science and social studies. In technology, the most significant activities will center around development of materials to be used in conjunction with NASA's Advanced Telecommunications Satellite which will be providing signals to low cost ground stations in April 1974. Funds in FY 1974 will be used to complete instructional materials being developed by three consortioms in Alaska, Applalachia and the Rocky Mountain States.

D. Personnel, Organization and Management

Although education utilizes materials, equipment and other tangible resources the activities represented in this category are considered pivotal in meeting the objectives of the institute. The largest number of current projects are related to teacher pre-service and in-service instructional systems and the development of planning, management and decision making techniques which involve panels, students and educators.

E. Post Secondary

Currently NIE is funding only continuation projects in higher education. These include activities at the National Center for Higher Education Management Systems (WICHE), the National Laboratory for Higher Education and an Educational Television off-campus program at the University of Nebraska. Post-Secondary education is a priority in the exploratory studies program. Since six members of the National Council represent higher education institutions, one can assume that funding for programmatic efforts in Post-secondary education will likely be increased in years. We hope, however, that NIE's role will not be confused with the purposes of the proposed Post-Secondary Foundation, or the fund for post-secondary innovation administered by the Office of the Assistant Secretary for Education. NIE assumes its major role will be to fund experimentation emphasizing researchable questions.

F. Early Learning

Eight projects are currently being funded in areas related to learning activities of children. Most have pre-school components

which attempt to reach children and parents in their home. One is developing video-tape programs for commerical broadcast or cable television delivery.

G. Minority Concerns

The last programmatic R&D area planned for FY 1974, are avtivities related to minority concerns, including bilingual programs for Puerto Rician and Mexican American Children.

IV. NIE Program Direction and Administration

NIE was authorized 350 positions in FY 1973. The transfer of Educational technology activities, OEO vouchers and other R&D activities will neccessitate the addition of approximately 100 new positions in the next year. The exact number of positions will of course be determined during the appropriate process.

Most new positions will likely be used in Basic Studies and Programmatic R&D activities. The smallest number of new positions will be needed for support of R&D and Utilization systems. Organizational management and administrative support units will need even fewer positions.

Possible Roles for Technology

Perhaps I have dwelled too long in explaining the status of current NIE Planning efforts. As I said earlier, all plans are very tentative pending the work of the National Council, the appropriations of Congress and review by DHEW, OMB and other agencies. I share this with you to give some perspective for my comments on the place of educational technology in the Institute.

Under the structure I have laid out before you, you have noted that there is no special place for technology. On the other hand is it being ignored. Planning documents recently prepared within the institute, have made a concious effort to intergrate the development and utilization of technology in the experiments of basic studies, the activities of programmatic studies and the analysis and programs in research and development and utilization systems.

As the 1971 conference on technology conceived by the NIE Planning Unit indicated technology offers a potential for substantial contributions to education in a variety of ways. One way of looking at it is to see it as a tool to be used in improving the quality, cost and convenience of educational services at all levels and to all populations.

You know better than I of the contributions to be made by computers; audio-visual materials; satellite, cable and broadcast delivery systems; microfiche and other existing technological innovations. Yet each of these cannot be used in isolation of the human and social factors which make education processes so difficult to implement much less understand.

As we presently understand the nature of educational R&D, we believe that NIE can make greatest strides in understanding the contributions of technology to education by

- bringing experts in the medium of technology together with other disciplines to design and conduct experiments which improve the use of resources available to educational systems
- integrating experiments in the use of technology with lawyer oriented experiments and demonstrations on-going in the Institute
- investigating the contributions of industry and other organizations dealing with technology towards strengthening the R&D system.

The recent activities of OE, such as the Emergency Schools Assistance Program, and recent legislative proposals such as the Better Schools Act and the Educational Technology Bill have conclusively demonstrated the awareness and demand of school systems for ways to incorporate modern technology in the delivery of

better educational services to students. NIE, with its charter to strengthen the technological foundations of education can ill-afford to ignore this consumer demand.

Thank you for your invitation to speak to you about the Institute. I hope you have a few questions to ask me! If you don't, you'll throw me with no mercy to the seductions of the Casino accross the street!